

7 has.

*A3
cancel.*

1 15. [original] The apparatus of claim 13 wherein said head end cherry picker
2 multiplexer further comprises bandwidth recoders coupled to receive output data
3 streams from said culling switch means and functioning to alter the bandwidth of each
4 said output stream in accordance with instructions, and wherein said control means
5 further comprises means for analyzing the bandwidth availability on each customer's
6 DSL line and for controlling said bandwidth recoders accordingly.

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REMARKS

3 Claims 1, 2 and 4-6 were rejected as anticipated by Laubach et al. (US 6,081,533),
4 hereafter Laubach. In response to this rejection, claim 1 was amended to specify that
5 the inputs are for receiving MPEG packets and/or P packets that encode video programs
6 and other services provided by servers coupled to these inputs. Laubach does not
7 teach a headend controller that can receive, process and distribute MPEG packets or P
8 packets. Laubach teaches in Figure 7 and its accompanying text that the inputs to the
9 headend controller receive Ethernet packets. Although Laubach teaches a video
10 controller card 712. This card is mentioned only two times, and in neither place is its
11 structure or capability described. There is no mention of receiving MPEG packets or
12 receiving MPEG packets and encapsulating them into ATM cells. Laubach could not
13 process MPEG packets directly because they are not switchable by regular P or ATM
14 switches and Laubach teaches an ATM switch 705 to distribute ATM packets to the
15 various downstream channel transmitters. Laubach teaches as the output of the switch
16 RF signals containing ATM cells. Claim 1 also had a recoder element added in each
17 channel. Laubach is silent about recoder circuits or the problem such recoders solve.
18 Claim 1 is therefore not anticipated.

19 Claim 2 depends from claim 1 and has been canceled since it covers what claim 1

20 has been amended to cover.

21 Claim 3 depends from claim 1 and is not anticipated for the same reasons claim 1
22 is not anticipated.

23 Claim 4 depends from claim 1 and is not anticipated for the same reason claim 1 is
24 not anticipated. In addition, claim 4 has been amended to change its scope to cover the
25 upstream reception apparatus that receives requests for video programs and services
26 and authenticates the users who sent the requests to make sure they have valid
27 subscriptions.

28 Claim 5 depends from claim 1 and is not anticipated for the same reasons claim 1
29 is not anticipated.

30 Claim 6 depends from claim 1 and is not anticipated for the same reasons claim 1
31 is not anticipated. In addition, claim 6 claims means for assembling output streams for
32 maximum efficiency. This clause must be interpreted under 35 USC 112, paragraph 6 to
33 cover the circuitry and software processes described in the specification that teach
34 determining how many requests each customer has made and how many tuners that
35 customer has and grouping all the requested programs, if possible, on no more than the
36 number of channels matching the number of tuners the customer has. Laubach teaches
37 no such circuitry.

38 Claims 7-15 have been rejected as obvious over the combination of Laubach and
39 Schneidewend et al. (US 6,249,320), hereafter Schneidewend. Claim 7 adds to the pull
40 multiplexer of claim 1 including a recoder to decompress and recompress to the available
41 bandwidth, a programmed microprocessor to control the assembly of output streams so
42 that the requests from each user are analyzed along with information on how many
43 tuners the user has and the current availability of subchannels on then attempting to
44 create the output streams so that all the video programs and services a user requested
45 are transmitted on subchannels in a number of channels that do not exceed the number
46 of tuners the user has. The term "logical channel" is intended to be interpreted to mean
47 the channels that the user's receiver can receive that carry the subchannels or other
48 logical channels. In other words, one receiver receives one logical channel which
49 contains subchannels (such as on different PIDs, in different time intervals, on different
50 spreading codes, etc.). Some persons skilled in the art call what we are calling logical
51 channels simply channels or physical channels. The term is intended to encompass all
52 these meanings, i.e., one receiver receives one logical channel, physical channel or

53 channel, whichever terminology one prefers.

54 Claim 8 is like claim 7 but adds the notion of moving or combining data being
55 transmitted to other customers so as to make room on a number of subchannels on a
56 number of logical channels that does not exceed the number of tuners the user has such
57 that the programs and/or services the user requested can be transmitted to him on a
58 number of logical channels that does not exceed the number of tuners the user has.

59 The combination of Laubach and Schneidewend do not teach a machine like claim
60 7 or claim 8 that can receive MPEG packet streams and P packet streams, and receive
61 upstream requests, and cull out packets that fulfill the received requests, decompress
62 them and recompress them to the available bandwidth, and then assemble the packets
63 for programs or services each user has requested into a number of logical channels that
64 do not exceed the number of tuners a user has. Laubach teaches a headend that
65 receives ethernet packets (containing ATM cells presumably), switches the ATM cells to
66 the appropriate transmitter, modulates them onto RF signals and transmits them
67 downstream. No mention of MPEG packet streams or culling out packets by PIDs or P
68 addresses is made in Laubach. No mention of decompression and recompression is
69 made in Laubach. Schneidewend teaches a video processing system which uses two
70 identification numbers in each program channel. One number identifies the information
71 provider. The other identifies the subchannel on which the program is transmitted. The
72 teachings of Schneidewend are directed to solving the problem of channel branding.
73 Analog broadcasters may have substantial good will in their analog channel identity such
74 as Fox 5, etc. and do not want to lose that channel identity even though they want to
75 transmit multiple digital programs on subchannels within the same 6 Mhz spectrum
76 previously devoted to sending only one analog TV program. Therefore, the two
77 identification numbers are used in presenting information to the customer in menus so
78 that the major channel such as Fox 5 is identified by the first identification number and the
79 particular program and subchannel number is identified by the second identification
80 number. This allows the channel brand to not be lost while allowing a customer to pick
81 from different programs transmitted on the different subchannels within each major
82 channel.

83 Significantly, there is no teaching in either Laubach or Schneidewend of
84 organizing the output streams carrying the video programs and or services a particular
85 user has requested into subchannels on a number of logical channels that match or at

86 least do not exceed the number of tuners that user has in his home gateway, if possible.

87 This problem is not recognized by either reference. When the prior art
88 combination does not recognize the problem the claimed invention solves and the
89 combination falls short of teaching all the apparatus and software needed to solve the
90 problem, it is not fair to conclude the combination renders the claimed invention obvious.

91 Claim 13 defines a headend with a bank of DSL modems to transmit the
92 downstream data and receive the upstream data. The DSL modems are coupled to the
93 culling switches which are used to cull out MPEG video packets and P packets that bear
94 the video programs and/or services each user requested. The video input data is in
95 MPEG packet format. POTS telephone signal (analog) inputs are also coupled to the DSL
96 modems. The combination of Laubach and Schneidewend does not teach nor suggest
97 such a combination. There are no DSL modems, MPEG input transport streams or POTS
98 inputs in the combination of Laubach and Schneidewend. As such, the combination falls
99 short of the claimed invention.

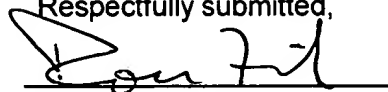
100 Claim 14 depends from claim 13 and adds the notion of organizing the data
101 transmitted on the DSL channels so as to not exceed the number of tuners the customer
102 has. The combination of references does not teach nor suggest this.

PATENT

104 Claim 15 depends from claim 13 and adds the notion of recoders to decompress
105 and recompress to the available bandwidth. The combination of references does not
106 teach nor suggest this.

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Respectfully submitted,



Ronald Craig Fish

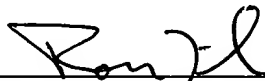
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